Please note that this draft proposed regulation is for preliminary review by the public as ARB considers multiple options. Please refer to the accompanying Draft Concept Paper for a summary of the different options that ARB is considering, and some of the questions that ARB is asking for public input on.

DRAFT Proposed Regulation Order

REGULATION FOR MANAGEMENT OF HIGH GLOBAL WARMING POTENTIAL REFRIGERANTS

Adopt new Subchapter 10, Article X, sections 9XXXX to 9XXXX, title 17, California Code of Regulations, to read as follows:

Article X: MANAGEMENT OF HIGH-GWP REFRIGERANTS

§ 9XXX0. Purpose

The purpose of this regulation is to reduce emissions of refrigerants with high global warming potential from stationary refrigeration and air-conditioning systems by requiring persons subject to this rule to reclaim, recover, or recycle refrigerant; to properly repair refrigeration and air-conditioning equipment; and to install new equipment that has maximum technologically feasible performance.

§ 9XXX1Applicability

This rule is applicable to any person who owns or operates a refrigeration or air-conditioning system, as defined in this rule. This rule is also applicable to any person who installs, repairs, maintains, services, replaces, recycles, or disposes of a refrigeration or air-conditioning system, and to any person who sells refrigerant.

§ 9XXX2. Definitions

(a) For the purposes of this article, the following definitions shall apply:

(1) “Additional Refrigerant Charge” means the quantity of refrigerant added to a refrigeration or air-conditioning system in order to bring the system to a full charge and replace refrigerant which has leaked.

(2) “Air-conditioning System” means any stationary equipment that holds more than 50 pounds of any combination of high-GWP refrigerant that is intended or installed for the purpose of providing cooling in order to control heat and/or humidity in facilities such as office buildings and computer rooms.

(3) “Air District” means an Air Quality Management District or Air Pollution Control District created or continued in existence under Health and Safety Code sections 40000-41357.

(4) “Air Pollution Control Officer” or “APCO" means the appointed head of an Air Quality Management District or Air Pollution District whose appointment and duties are set forth in Health and Safety Code sections 40750-40753.

(5) “Approved Recovery Equipment” means any refrigerant recovery equipment that is certified by a US EPA-approved equipment testing organization pursuant to the requirements of Part 82 of Title 40 of the Code of Federal Regulations.

(6) “Approved Recycling Equipment” means any refrigerant recycling equipment that is certified by a US EPA-approved equipment testing organization pursuant to the requirements of Part 82 of Title 40 of the Code of Federal Regulations.

(7) “ARI” means the Air-Conditioning and Refrigeration Institute.

(8) “ASHRAE” means the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

(9) “Audit” means an annual inspection of a refrigeration or air-conditioning system containing refrigerants conducted to:

(A) Identify leaks pursuant to a Section 9XXX3(a), and

(B) Ensure proper operation pursuant to manufacturer's specifications.

(10) “Automatic Leak Detection System” means a calibrated mechanical, electrical, or electronic device for detecting leakage of refrigerants that on detection, alerts the operator, and may be either:

(A) A direct system that uses electronic sensors to detect the presence of leaked refrigerant adjacent to the refrigeration or air-conditioning system; or

(B) An indirect system that interprets measurements within the refrigeration or air-conditioning system to predict a leak (e.g., liquid level in a receiver vessel combined with relevant temperatures and pressures).

(11) “Best Available Refrigeration Technology” means any available technology used in a commercial refrigeration system that has a maximum refrigerant charge equivalent to 1.75 pounds of high GWP refrigerant per 1000 British Thermal Units (BTu) per hour.

(12) “Carbon Footprint” means the sum of the global warming potential of the refrigerant contained in equipment within a facility plus the estimated carbon dioxide emissions resulting from electricity consumed by the same facility, and is calculated for purposes of this regulation using the following formula:

Carbon footprint= (REFRIGERANT * GWP) + (ENRGY * $EFCO_2$)

1. REFRIGERANT = Total refrigerant capacity of all air-conditioning and refrigeration equipment contained in a facility
2. ENRGY = annual energy consumption by a facility (kWh/year)
3. $EFCO_2$ = annual CO_2 emissions rate for generated electricity used by a facility

(13) “Certified Reclaimer” means a person who holds a current, valid, and applicable reclaimer certificate issued by the US EPA in accordance with Part 82 of Title 40 of the Code of Federal Regulations.

(14) “Certified Recovery Equipment” means any approved recovery equipment that is capable of removing refrigerant from a refrigeration or air-conditioning system or commercial refrigeration appliance without the assistance of components contained in the refrigeration or air-conditioning system or commercial refrigeration appliance, in accordance with applicable regulations of the US EPA as contained in Part 82, Subpart F, of Title 40 of the Code of Federal Regulations.

(15) “Certified Recycling Equipment” means any approved recovery equipment that is capable of removing refrigerant from a refrigeration or air-conditioning system or commercial refrigeration

appliance without the assistance of components contained in the refrigeration or air-conditioning system or commercial refrigeration appliance, in accordance with applicable regulations of the US EPA as contained in Part 82, Subpart F, of Title 40 of the Code of Federal Regulations.

(16) "Certified Technician" means a person who holds a current, valid, and applicable certificate issued by the US EPA in accordance with Part 82 of Title 40 of the Code of Federal Regulations. The US EPA certification must be in one of the following categories:

(A) Type I Technician certificate for small appliances; or

(B) Type II Technician certificate for high or very high pressure refrigeration systems; or

(C) Type III Technician certificate for low pressure refrigeration systems; or

(D) A Universal Technician certificate.

(17) "Chlorofluorocarbon" or "CFC" means a class of compounds consisting of chlorine, fluorine, and carbon.

(18) "Comfort Cooling" means air-conditioning that is intended to provide cooling in order to control heat and/or humidity in facilities such as office buildings and computer rooms.

(19) "Commercial Refrigeration Appliance" means an appliance used in refrigeration system for retail food, cold storage warehouse, or any other commercial or industrial business requiring cold storage, including, but not limited to, the following:

(A) Supermarkets

(B) Grocery stores

(C) Convenience stores

(D) Restaurants

(E) Other food service establishments

(F) Manufacturing or processing of any perishable goods or products requiring refrigerated storage.

(20) “Component” means a part of a refrigeration or air-conditioning system including, but not limited to, compressor, condenser, evaporator, receiver and all of its connections and subassemblies, without which the appliance will not properly function or will be subject to failures.

(21) “Continuous Monitoring” means measuring the performance of refrigeration and air-conditioning systems in real time, including measurement of refrigerant leaks.

(22) “Dispose” means to discard refrigerant in any manner, except destruction by incineration or by a treatment method specifically approved by the US EPA for handling such refrigerant without releasing it to the atmosphere.

(23) “Follow-up Verification Test” means a test that validates the effectiveness of repairs to a refrigeration or air-conditioning system or commercial refrigeration appliance performed within 30 days of the completion of the repair and the system’s return to normal operating characteristics and conditions, but no sooner than 24 hours after completion of repairs. A follow-up verification test includes, but is not limited to, the use of soap bubbles, electronic or ultrasonic leak detectors, pressure or vacuum tests, fluorescent dye and black light, infrared or near infrared tests, and handheld gas detection devices.

(24) “Full Charge” means the amount of refrigerant required for normal operating characteristics and conditions of a refrigeration or air-conditioning system or commercial refrigeration appliance as determined by using one of the following four methods:

(A) Use of the equipment manufacturer's specifications of the full charge;

(B) Use of calculations based on component sizes, density of refrigerant, volume of piping, seasonal variances, and other relevant considerations;

(C) Use of actual measurements of the amount of refrigerant evacuated from the refrigeration or air-conditioning system or commercial refrigeration system; or

(D) The midpoint of an established range for refrigerant charge based on the best available data regarding the normal operating characteristics and conditions for the system.

(25) “Global Warming Potential” or “GWP” means the total contribution to global warming resulting from the emission of one unit of a specific gas relative to one unit of the reference gas, carbon dioxide. The Global Warming Potential of a specific gas is as defined in the Second Assessment published by the Intergovernmental Panel on Climate change.

(26) “High-GWP Refrigerant” means a compound used as a heat transfer fluid or gas in a refrigeration or air-conditioning system or commercial refrigeration appliance that is a chlorofluorocarbon, hydrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any blend containing these compounds.

(27) “Hydrochlorofluorocarbon” or “HCFC” means a class of greenhouse gases primarily used as refrigerants, consisting of hydrogen, chlorine, fluorine, and carbon.

(28) “Hydrofluorocarbon” or “HFC” means a class of greenhouse gases primarily used as refrigerants, consisting of hydrogen, fluorine, and carbon.

(29) “Industrial Process Refrigeration Appliance” means a refrigeration system that is directly linked to a manufacturing process and is often complex or customized. Industrial process refrigeration includes but is not limited to, appliances used in the chemical; pharmaceutical; petrochemical; food or beverage manufacturing, packaging or processing; power generation; and industrial ice manufacturing industries. Where one appliance is used for both industrial process refrigeration and another type of refrigeration or air-conditioning application, the appliance will be considered as an industrial process refrigeration appliance if 30 percent or more of its operating capacity is used for industrial process refrigeration.

(30) “Initial Verification Test” means a leak test that validates the effectiveness of repairs to a refrigeration or air-conditioning system that is conducted as soon as practicable after a repair of a refrigeration or air-conditioning system. When leak repairs require the evacuation of the refrigerant from the refrigeration or air-conditioning system, or a portion of the refrigeration or air-conditioning system,

initial verification test means a test conducted prior to the replacement of the full refrigerant charge and before the air-conditioning or refrigeration system, or portion of the system, has reached operation at normal operating characteristics and conditions. .When repairs do not require the evacuation of refrigerant, initial verification test means a test conducted as soon as practicable after the conclusion of the repair work.

(31) “Normal Operating Characteristics and Conditions” means a refrigeration or air-conditioning system or commercial refrigeration appliance operating temperatures, pressures, fluid flows, speeds and other characteristics, including full charge of the air-conditioning or refrigeration system that would be expected for a given process load and ambient condition during operation. Normal operating characteristics and conditions are marked by the absence of atypical conditions affecting the operation of the refrigeration or air-conditioning system.

(32) “Perfluorocarbon” or “PFC” means a class of chemical consisting on the molecular level of carbon and fluorine.

(33) “Person” means any person, firm, association, organization, partnership, business trust, corporation, limited liability company, company, federal, state, or local governmental agency or public district.

(34) “Reclaim” means to process refrigerant to a level equivalent to new product specifications in accordance with the ARI 700 Standard.

(35) “Recover” means to remove refrigerant, in any condition, from a system without necessarily testing or processing it in any way.

(36) “Recycle” means to clean refrigerant for reuse by oil separation and single or multiple passes through moisture-absorption devices, such as replaceable core filter-driers that reduce moisture, acidity, and particulate matter.

(37) “Refrigerant” means any compound used as a heat transfer fluid or gas in a refrigeration or air-conditioning system.

(38) “Refrigerant Distributor” means a person that distributes refrigerant to retailers or to industrial, commercial, institutional or professional users.

(39) “Refrigerant Leak” means any discharge of refrigerant from a refrigeration or air-conditioning system, approved recovery equipment, or approved recycling equipment into the atmosphere.

(40) “Refrigerant System” means stationary equipment used for cooling or freezing that holds more than 50 pounds of high- GWP refrigerant in any combination, including, but not limited to, refrigerators and freezers, and components and connections.

(41) “Refrigerant Wholesaler” means a person that provides a full range of refrigerant services including blending, recycling, repackaging, and selling to retailers, to industrial, commercial, institutional or professional users, or to other wholesalers, or acts as an agent or broker in buying refrigerant.

(42) “Retire” means the permanent removal from service of a refrigeration or air-conditioning system or commercial refrigeration appliance rendering it unfit for use by the current or any future owner or operator.

(43) “Retrofit” means the replacement of a refrigeration or air-conditioning system or commercial refrigeration appliance, upgrade of a refrigeration or air-conditioning system or commercial refrigeration appliance, or major repairs of a refrigeration or air-conditioning system or commercial refrigeration appliance. Retrofit includes, but is not limited to, the following: changes in refrigerant used, changes in lubricants, gaskets, filters, driers, valves, o-rings or other components.

(44) “Seasonal Adjustment” means the need to add refrigerant to a refrigeration or air-conditioning system or commercial refrigeration appliance due to a change in ambient conditions caused by a change in season, followed by the subsequent removal of refrigerant in the corresponding change in season, where both the addition and removal of refrigerant occurs within one consecutive 12-month period.

(45) “System Mothballing” means the intentional shutting down of a refrigeration or air-conditioning system or commercial refrigeration appliance for an extended period of time by the owners or operators of that facility, where the refrigerant has been evacuated from the refrigeration or air-conditioning system or commercial refrigeration appliance or the affected isolated section of the refrigeration or air-conditioning system or commercial refrigeration appliance, at least to atmospheric pressure.

(46) “Topping Off” means adding refrigerant to a refrigeration or air-conditioning system in order to bring the system to a full charge.

(47) “US EPA” means the United States Environmental Protection Agency.

§ 9XXX3. General Requirements for Stationary Air-Conditioning and Refrigeration System Leak Repair and Reporting

(a) Annual Audit. An annual audit must be conducted for a stationary refrigeration or air-conditioning system by a certified technician to determine whether the refrigeration or air-conditioning system is operating pursuant to manufacturer's specifications and does not have any refrigerant leak.

(1) A certified technician must conduct an annual audit only for a refrigeration or air-conditioning system they are certified to service by the US EPA in accordance with Part 82 of Title 40 of the Code of Federal Regulations.

(2) For a refrigeration or air-conditioning system with a full charge greater than 600 pounds, an initial annual audit must be completed no later than January 31, 2010, and at minimum, every 12 months thereafter.

(3) For a refrigeration or air-conditioning system with a full charge greater than 200 pounds, an initial annual audit must be completed no later than January 31, 2012, and at minimum, every 12 months thereafter.

(4) For a refrigeration or air-conditioning system with a full charge greater than 50 pounds, an initial annual audit must be completed no later than January 31, 2014, and at minimum, every 12 months thereafter.

(5) At minimum, the annual audit must include the following:

(A) For a refrigeration and air-conditioning system operating above atmospheric pressure, a leak test must be conducted using one of the following methods:

1. Electronic halogen detector used in accordance with manufacturer's specifications;

2. Fluorescent tracer dyes injected into the system according to manufacturer's specifications, and scanned with an ultraviolet lamp;

3. Soap suds or proprietary bubble solutions; or

4. An alternate method approved by the ARB or Air Pollution Control Officer.

(B) For a refrigeration and air-conditioning system operating below atmospheric pressure, a leak test must be conducted using one of the following methods:

1. Pressurizing the system by using an inert gas mixture with an indicator or by raising the temperature of the evaporator; or

2. An alternate method approved by the ARB or Air Pollution Control Officer.

(C) For a refrigeration and air-conditioning system a determination must be made of the total refrigerant leak rate for the refrigeration or air-conditioning system, as follows:

1. Determine a full charge for each refrigeration or air-conditioning system.

2. Determine a total refrigeration or air-conditioning system additional refrigerant charge equal to the sum of the total additional refrigerant charge in each system component.

(i) The quantity of additional refrigerant charge must be determined by weighing the refrigerant charging container before and after each charge, using equipment that is accurate to the nearest pound.

3. The total refrigerant leak for each refrigeration and air-conditioning system or commercial refrigeration appliance is equal to the total quantity of additional refrigerant charge for a specified time period.

4. The refrigeration system or air-conditioning system leak rate is equal to the total refrigeration or air-conditioning system additional refrigerant charge divided by the total refrigeration or air-conditioning system full charge for a specified time period.

(D) For all refrigeration or air-conditioning systems or commercial refrigeration appliances an examination must be conducted for deficiencies which may cause refrigerant leakage.

(E) For all refrigeration or air-conditioning systems or commercial refrigeration appliances a written record must be made of all deficiencies and corrective action that has been or will be taken.

(F) The annual audit must include inspection of the following components:

1. Joints;

2. Valves, including stems;

3. Seals, including seals on replaceable driers and filters;

4. Parts of the system subject to vibration; and

5. Connections to safety or operational devices.

6. The automatic leak detection system must be inspected at least once a year to ensure proper functioning.

(b) Continuous Monitoring and Automatic Leak Detection - Owners or operators of a stationary refrigeration system with a full charge greater than 600 pounds of high-GWP refrigerant must have an automatic leak detection system with continuous monitoring.

(c) Leak Reporting - The Owner or operator of a stationary refrigeration or air-conditioning system must report all leaks and maintain records of leak reports as follows:

(1) Leak Reporting: A facility owner and operator must report to the local Air District within 48 hours of a leak of over 5 pounds of high-GWP refrigerant. The refrigerant leak report must include the following:

(A) Equipment Manufacturer

(B) Equipment Model

(C) Equipment Serial number

(D) Date leak occurred

(E) Type of refrigerant leaked

(F) Total pounds of refrigerant leaked.

(d) Leak Repair - The owner or operator of a stationary refrigeration or air-conditioning system must repair all leaks and maintain records of leak repairs.

(1) A refrigeration or air-conditioning system or commercial refrigeration appliance refrigeration leak must be repaired within 7 days of leak detection, as evident by the need to add refrigerant or detected by an automatic leak detection system.

(2) The owner or operator must conduct an initial verification test immediately upon completion of repairs.

(3) The owner or operator of a refrigeration or air-conditioning systems with a full charge greater than 600 pounds must conduct a follow-up verification test on the complete refrigeration or air-conditioning systems no sooner than 24 hours, and no later than 7 days after recharge of equipment following a repair. The follow-up verification test must be conducted at normal operating characteristics and conditions.

(4) The owner or operator must maintain a log of repair activities including the following:

(A) Equipment manufacturer

(B) Equipment model

(C) Equipment serial number

(D) Each additional refrigerant charged to the refrigeration system

(E) Date of each additional refrigerant charged to the refrigeration system

(F) Date leak detected

(G) Cause of leak

(H) Physical location of leak

(I) Repairs required to correct leak

(J) Date leak repair complete

(K) Date of initial verification test

(L) Date of follow-up verification test, if applicable

(M) Total additional refrigerant charge

(N) Name of certified technician completing leak repair

(O) US EPA certificate number of certified technician completing leak repair.

(5) If either the initial verification or the follow-up verification test indicates that the repairs have not been successful, meaning that leaks are still occurring within the refrigeration or air-conditioning system or component(s) requiring repair, the owner or operator must retrofit or retire the leaking component(s), in its/their entirety, within 14 days of the failed verification.

(6) The owners or operator of refrigeration or air-conditioning system may have more than 14 days to repair the appliance or replace the leaking component(s) if one or more of the following conditions apply:

(A) The necessary parts for an appliance component(s) are unavailable and the owner or operator maintains a written statement from the appliance or component manufacturer or distributor stating the unavailability of parts.

(B) The owner or the operator has received approval from the APCO to permanently retire the entire refrigeration or air-conditioning system from operation or retrofit the entire appliance with a substitute with a lower GWP.

(C) The retirement or retrofit plan that is approved by the APCO must be maintained on-site at the physical location of the affected refrigeration or air-conditioning system.

(7) The amount of time for owners or operators to complete and verify repairs, prepare, replace components, and implement written retrofit or retirement plans under paragraph (2) of this section is temporarily suspended during the time that an appliance is undergoing system mothballing.

(8) The time for owners or operators to complete repairs, replace components, or fully implement written retrofit or retirement plans will resume on the day the appliance is brought back on-line, indicating that the appliance is no longer undergoing system mothballing.

(e) Retrofit and retirement plan: The owner or operator of a refrigeration or air-conditioning system must maintain a dated retrofit or retirement plan that establishes a six-month schedule to retrofit or retire a leaking refrigeration or air-conditioning system or commercial refrigeration appliance.

(1) The retrofit and retirement plan must be approved by the Air Pollution Control Officer.

(2) The retrofit and retirement plan must be maintained at the site of a leaking refrigeration or air-conditioning system or commercial refrigeration appliance, and at a minimum must include the following:

(A) Equipment type

(B) Equipment manufacturer

(C) Equipment model

(D) Equipment serial number

(E) Physical location of a refrigeration or air-conditioning system or commercial refrigeration appliance

(F) Temperature classification – identify equipment as a low temperature system or a medium temperature system

(G) Type of refrigerant used

(H) Total refrigerant charge

(I) Monthly refrigerant charge – report the amount of refrigerant charge each month for the most recent calendar year, in pounds

(J) Date of last annual audit

(K) A log of repair activities including the following:

1. Equipment manufacturer
2. Equipment model
3. Equipment serial number
4. Each additional refrigerant charged to the refrigeration system
5. Date of each additional refrigerant charged to the refrigeration system
6. Date leak detected
7. Cause of leak
8. Physical location of leak
9. Repairs required to correct leak
10. Date leak repair complete
11. Date of initial verification test
12. Date of follow-up verification test, if applicable
13. Total additional refrigerant charge
14. Name of certified technician completing leak repair
15. US EPA certificate number of certified technician completing leak repair.

(L) If a refrigeration or air-conditioning system is to be retired and replaced, the retirement plan must include information specific to the new refrigeration or air-conditioning system to be constructed or installed, including the following:

1. Equipment type
2. Equipment manufacturer
3. Equipment model

4. Physical location of refrigeration or air-conditioning system or refrigeration or air-conditioning appliance

5. Temperature classification – identify equipment as a low temperature system or a medium temperature system

6. Type of refrigerant used

7. Total refrigerant charge

8. A plan for refrigeration or air-conditioning system disposition

9. A plan for refrigerant recovery and disposition.

(M) If a refrigeration or air-conditioning system is to be retrofitted, the retirement and retrofit plan must include information specific to the retrofitted refrigeration or air-conditioning system to be constructed or installed, including the following:

1. Equipment type

2. Equipment manufacturer

3. Equipment model

4. Physical location of refrigeration or air-conditioning system or refrigeration or air-conditioning system

5. Temperature classification – identify equipment as a low temperature system or a medium temperature system

6. Type of refrigerant used

7. Total refrigerant charge

8. A plan for refrigeration or air-conditioning system disposition

9. A plan for refrigerant recovery and disposition

10. An itemized retrofit plan including, but not limited to the following:

(i) Procedure for flushing old refrigerant and lubricant

(ii) Procedures for changes in lubricants, filters, gaskets, o-rings, and valves

(iii) A plan for refrigeration or air-conditioning system disposition

(iv) A plan for refrigerant recovery and disposition.

(f) Authority to Construct, Permit to Operate, Change of Ownership, and Termination of a Permit

(1) Authority to Construct – A person building a new or replacing an existing stationary refrigeration or air-conditioning system must obtain authority for such construction from the local District by January 1, 2010. An authority to construct must remain in effect until a permit to operate is granted or denied or the application is canceled.

(2) Permit to Operate - A person who operates a stationary refrigeration or air-conditioning system must apply for a permit to operate for the entire facility from the local Air District.

(A) For refrigeration and air-conditioning systems with a full charge greater than 600 pounds, an application for a permit to operate must be submitted no later than January 31, 2010.

(B) For refrigeration and air-conditioning systems with a full charge greater than 200 pounds, an application for a permit to operate must be submitted no later than January 31, 2012.

(C) For refrigeration and air-conditioning systems with a full charge greater than 50 pounds, an application for a permit to operate must be submitted no later than January 31, 2014.

(D) A request for a permit to operate must provide the following information:

1. Equipment type

2. Equipment manufacturer

3. Equipment model

4. Equipment serial number

5. Physical location of a refrigeration or air-conditioning system or commercial refrigeration appliance

6. Temperature classification – identify equipment as a low temperature system or a medium temperature system

7. Type of refrigerant used

8. Total refrigerant charge

9. Monthly refrigerant charge – report the amount of refrigerant charge each month for the most recent calendar year, in pounds.

(3) Change of Ownership –A refrigeration or air-conditioning system must be tested and proven leak free by a certified technician at the change of ownership. A person selling an existing stationary refrigeration system or air-conditioning system must submit a change of ownership application to the local Air District.

(4) Termination of Operation - Refrigerant contained in equipment must be drained out and recovered by a certified technician at the termination of operation. Any person terminating the operation of an existing stationary refrigeration or air-conditioning system must submit a termination of operation application to the local Air District.

(5) The person submitting the Authority to Construct, Permit to Operate, Change of Ownership, or Termination of Operation Application described in subsection (f) of this section for a facility must provide payment according to the fee schedule established by the local Air District.

(g) Required Service Practices

(1) A person maintaining, servicing, or repairing air-conditioning and refrigeration equipment must meet all the following requirements:

(A) Must not intentionally disrupt the refrigerant circuit of any refrigeration or air-conditioning system in order to prepare such unit for recycling or disposal, unless an attempt to recover refrigerant is made using approved refrigerant recovery/recycling equipment.

(B) Make a recovery attempt prior to opening the system to atmospheric conditions. Attempts to recover refrigerant must be made even if the person has reason to believe that all refrigerant has been removed or has previously leaked from the system.

(C) Must not use a refrigerant in any refrigeration or air-conditioning system, unless such refrigerant has EPA approval under the Significant New Alternatives Policy SNAP) program pursuant to Section 612 of the U.S. Clean Air Act.

(D) Must not add a refrigerant charge to a stationary a refrigeration or air-conditioning system appliance without making an attempt to repair leaks in the system, excluding a refrigerant charge for seasonal adjustment.

(2) A person installing, servicing, modifying, or disposing of any refrigeration or air-conditioning system, must meet all of the following requirements:

(A) Recovers the refrigerant using certified refrigerant recovery/recycling equipment for that type of refrigeration or air-conditioning system. Refrigerant may be returned to the refrigeration or air-conditioning system from which it is recovered from or to another refrigeration or air-conditioning system owned by the same person without being recycled or reclaimed.

(B) Employs procedures for which the recycling or recovery equipment was approved by the US EPA.

(C) Uses refrigerant recovery and recycling equipment as specified by the recovery or recycling equipment manufacturer unless manufacturer's specifications are in conflict with the equipment approved procedures.

(D) Satisfies job site evacuation of refrigerants during recycling, recovering, reclaiming, or disposing in accordance with applicable regulations of the US EPA as contained in Part 82, Subpart F, Section 82.156, of Title 40 of the Code of Federal Regulations.

(h) Reporting and Recordkeeping - The owner or operator of a facility that contains a refrigeration or air-conditioning system must maintain records and report to the ARB and local Air District as follows:

(1) Annual Reporting: The owner or operator of a facility that contains a refrigeration or air-conditioning system must submit an annual report to both ARB and local Air District annually. The report must reflect the most recent calendar year and be received by the local Air District and ARB within 60 days after the end of each calendar year.

(2) An annual report must include the following information:

(A) Facility information

1. Name of operator

2. Name of facility, including a facility identifier such as store number

3. Facility identifier provided by ARB or the local Air District.

4. Facility contact person

5. Facility contact person phone number

6. Facility contact person E-mail address

7. Total energy use for previous calendar years

8. Report of leak repairs including the following for each leak repair conducted:

(i) Equipment Manufacturer

(ii) Equipment Model

(iii) Equipment Serial number

(iv) Date leak detected

(v) Date leak repair complete

(vi) Date of initial verification test

(vii) Date of follow-up verification test, if applicable

(viii) Total additional refrigerant charge

(ix) Name of certified technician completing leak repair

(x) US EPA certificate number of certified technician completing leak repair.

(B) Refrigeration and air-conditioning equipment information

1. An inventory of all refrigeration and air-conditioning systems and commercial refrigeration appliances, including the following:

(i) Equipment type

(ii) Equipment manufacturer

(iii) Equipment model

(iv) Equipment serial number

(v) Temperature classification – identify equipment as a low temperature system or a medium temperature system

(vi) Type of refrigerant used

(vii) Full charge

(viii) Monthly refrigerant charge – report the amount of refrigerant charge each month for the most recent calendar year, in pounds

(ix) Date of last annual audit

(3) The following records must be retained by all facilities for at least 5 years and must be made available to the Executive Officer, or designee, or Air Pollution Control Officer upon request.

(A) Annual reports required by subsection (a) of this Section.

(B) Documentation of all leak inspections required by subsection (a) of this Section.

(C) An inventory of all refrigeration and air-conditioning systems and commercial refrigeration appliances required by subsection (a) of this Section.

(D) Leak reports required by subsection (c) of this Section.

(E) Documentation of all leak repairs required by subsection (d), including a copy of the certified technician's US EPA Section 608 certificate, and any other certification.

(F) A log of repair activities required by subsection (d) of this Section.

(G) Documentation and invoices of all refrigerant purchases.

(H) Documentation of all shipments of refrigerants, including a transportation bill-of-lading or other transportation document to document all shipment of refrigerants. The documentation must include the following:

1. Name of facility refrigerant is shipped to.
2. Address facility refrigerant is shipped to.
3. Quantity in pounds of refrigerant shipped.
4. Type of refrigerant or refrigerant blend purchased.
5. Date of shipment.

6. Purpose of shipment (e.g. reclamation, destruction).

(I) Documentation of all refrigeration and air-conditioning systems and commercial refrigeration appliances component data, measurements, calculations and assumptions used to determine the full charge.

§ 9XXX4. General Requirements for Refrigerant Use, Sale and Disposal

a) Required Service Practices: A person installing, servicing, modifying, or disposing of any refrigeration or air-conditioning system or commercial refrigeration appliance, must meet all of the following requirements

(1) Recovers the refrigerant using certified refrigerant recovery/recycling equipment for that type of refrigeration or air-conditioning system or commercial refrigeration appliance. Refrigerant may be returned to the refrigeration or air-conditioning system or commercial refrigeration appliance from which it is recovered from or to another refrigeration or air-conditioning system or commercial refrigeration appliance owned by the same person without being recycled or reclaimed.

(2) Employs procedures for which the recycling or recovery equipment was approved by the US EPA or ARB.

(3) Uses certified refrigerant recovery and recycling equipment as specified by the recovery or recycling equipment manufacturer unless manufacturer's specifications are in conflict with the equipment approved procedures.

(4) On and after January 1, 2010, is certified and installing, servicing, modifying, or disposing only refrigeration or air-conditioning systems, or components, they are certified to service by the US EPA in accordance with Part 82 of Title 40 of the Code of Federal Regulations.

b) Sale and Distribution of High-GWP Refrigerant and Related Equipment

(1) Refrigerant reclaimer goals: A person that sells or distributes more than 2,000 pounds of refrigerant annually must collect and ensure reclamation of refrigerant as follows:

(A) For 2012 through 2014, at least 20% by mass of the amount of refrigerant sold must be reclaimed.

(B) For 2015 through 2019, at least 30% by mass of the amount of refrigerant sold must be reclaimed.

(C) For 2020 and after, at least 50% by mass of the amount of refrigerant sold must be reclaimed.

(D) The percent refrigerant reclaimed is equal to the total refrigerant collected and reclaimed for resale in a calendar year divided by the total refrigerant sold in the same calendar year.

c) **Prohibitions**

(1) On or after January 1, 2010, a person must not sell, distribute, offer for sale or distribution, or purchase any high-GWP refrigerant for use as a refrigerant in a container greater than 2 pounds to a person unless:

(A) The buyer is certified pursuant to Part 82 of Title 40 of the Code of Federal Regulations;

(B) The refrigerant is sold only for eventual resale to certified technicians, to air-conditioning or refrigeration appliance manufacturers, or the refrigerant is being sent for reclamation; or

(C) The refrigerant is contained in a refrigeration or air-conditioning system or commercial refrigeration appliance.

(2) A person must not sell used refrigerant to a new owner for use as a refrigerant unless the used refrigerant has first been reclaimed by a US EPA-certified refrigerant reclaimer.

(3) A person must not sell or distribute or offer to sell or distribute any refrigerant for any refrigeration or air-conditioning system or commercial refrigeration appliance unless such refrigerant has US EPA approval under the Significant New Alternatives Policy (SNAP) program pursuant to Section 612 of the U.S. Clean Air Act.

(4) A person must not sell refrigerant recovery and or recycling equipment intended for use in a refrigeration or air-conditioning system or commercial refrigeration appliance unless such equipment meets all of the requirements of ARI Standard 740.

(5) A person must not intentionally disrupt the refrigerant circuit of any refrigeration or air-conditioning system or commercial refrigeration appliance in order to prepare such unit for recycling or disposal, unless an attempt to recover refrigerant is made while properly using refrigerant recovery/recycling equipment.

(6) A person must not dispose of a cylinder used to store or transport high-GWP refrigerant unless the disposal or recycling facility accepting the cylinder evacuates the cylinder under vacuum and delivers recovered refrigerant to an EPA certified refrigerant reclaimer.

(7) A person must not distribute or sell refrigerant recovery and or recycling equipment unless such equipment meets all of the requirements of ARI Standard 740 and has been independently tested to meet the requirements of the standard by Underwriters Laboratories (UL) or the Air Conditioning, Heating and Refrigeration Institute (AHRI).

f) **Reporting and Recordkeeping**

(1) Certified technician annual reporting: a person servicing a refrigeration or air-conditioning system or commercial refrigeration appliance using high-GWP refrigerant must submit a report to the ARB within 60 days after the end of each calendar year. An annual report must include the following information:

(A) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was purchased.

(B) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was charged into a refrigeration or air-conditioning system or commercial refrigeration appliance.

(C) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was charged into equipment other than a refrigeration or air-conditioning system or commercial refrigeration appliance.

(D) A record of transactions for each type of high-GWP refrigerant or refrigerant blend that was purchased. The record of transactions must include the following information:

1. Name of refrigerant reclaimer, distributor, or wholesaler.

2. Address of refrigerant reclaimer, distributor, or wholesaler facility.

3. Type of refrigerant or refrigerant blend purchased.

4. Quantity, in pounds, of refrigerant or refrigerant blend purchased.

5. Date of purchase.

(E) A record of transactions for each type of recovered high-GWP refrigerant or refrigerant blend that was shipped or delivered to a certified reclamation facility, distributor, or wholesaler. The record of transactions must include the following information:

1. Name of facility refrigerant is shipped to.

2. Address facility refrigerant is shipped to.

3. Type of refrigerant or refrigerant blend received.

4. Quantity, in pounds, of refrigerant shipped.

5. Date of shipment.

6. Purpose of shipment (e.g., reclamation, destruction).

(2) Refrigerant distributor and wholesaler annual reporting: a person distributing or wholesaling a high-GWP refrigerant must submit a report to the ARB within 60 days after the end of each calendar year. An annual report must include the following information:

(A) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was shipped to service technicians and contractors.

(B) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was shipped to a certified refrigerant reclaimer.

(3) Refrigerant reclaimer annual reporting: a person reclaiming, recovering, or recycling a high-GWP refrigerant must submit a report to the ARB within 60 days after the end of each calendar year. An annual report must include the following information:

(A) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was collected for reclamation.

(B) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was collected for destruction.

(C) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was reclaimed.

(D) The total quantity in mass of each type of high-GWP refrigerant and refrigerant blend that was destroyed.

(E) A record of transactions for each type of recovered high-GWP refrigerant or refrigerant blend that was received from a certified technician, contractor, or other source. The record of transactions must include the following information:

1. Name of certified technician, contractor, or other source.
2. Address certified technician, contractor, or other source.
3. Type of refrigerant or refrigerant blend received.
4. Quantity in pounds of refrigerant received.
5. Date of receipt.
6. Purpose of receipt (e.g., reclamation, destruction).

(4) The following records must be retained by all certified technicians for at least 5 years and must be made available to the Executive Officer, or designee, upon request.

(A) Annual reports required by subsection (f) of this Section.

(B) Documentation and invoices of all refrigerant purchases.

(C) Documentation of all shipments of refrigerants, including a transportation bill-of-lading or other transportation document. The documentation must include the following:

1. Name of facility refrigerant is shipped to.
2. Address facility refrigerant is shipped to.
3. Type of refrigerant or refrigerant blend received.
4. Quantity, in pounds, of refrigerant shipped.
5. Date of shipment.
6. Purpose of shipment (e.g., reclamation, destruction).

(5) The following records must be retained by all refrigerant distributors and wholesalers for at least 5 years and must be made available to the Executive Officer, or designee, upon request.

(A) Annual reports required by subsection (f) of this Section.

(B) Documentation and invoices of all refrigerant sales.

(C) Documentation of all shipments of refrigerants (including a transportation bill-of-lading or other transportation document) to document all shipment of refrigerants. The documentation must include the following:

1. Name of facility refrigerant is shipped to.
2. Address facility refrigerant is shipped to.
3. Type of refrigerant or refrigerant blend received.
4. Quantity, in pounds, of refrigerant shipped.
5. Date of shipment.

6) The following records must be retained by all refrigerant reclaimers for at least 5 years and must be made available to the Executive Officer, or designee, upon request.

(A) Annual reports required by subsection (f) of this Section.

(B) Documentation and invoices of all refrigerant purchases and sales.

(C) Documentation of all shipments of refrigerants, including a transportation bill-of-lading or other transportation document. The documentation must include the following:

1. Name of facility refrigerant is shipped to.
2. Address facility refrigerant is shipped to.
3. Type of refrigerant or refrigerant blend received.
4. Quantity in pounds of refrigerant shipped.
5. Date of shipment.

§ 9XXX5. General Requirements for Stationary Refrigeration and Air-Conditioning Systems

(a) For a retrofit or replacement of any existing stationary refrigeration or air-conditioning system, and for new stationary refrigeration or air-conditioning system, manufacturers and technicians must comply with the specifications in ASHRAE Standard 147.

(b) On or after January 1, 2015, a person may not obtain a permit to construct a stationary refrigeration system that uses a high-GWP refrigerant in a facility over 25,000 square feet unless the owner or operator of the facility demonstrates that the facility planned to be constructed meets one of the following conditions:

(1) The facility will use Best Available Refrigeration Technology, as measured in subsection (e) of this Section; or

(2) The facility will have a "total carbon footprint" that is 25% less than the baseline facility carbon footprint, as defined in subsection (i) of this Section, in the same facility category, as defined in subsection (f) of this Section.

(c) A facility owned by a company or its subsidiary companies and their subsidiaries that own or operate less than 3 retail food stores supermarkets or supercenters in California with annual sales for each of the stores greater than $5 million is exempt from subsection (b) of this section.

(d) A facility that does not contain a refrigeration system with a full charge size of 50 pounds or greater of a high-GWP is exempt from subsection (b) of this section.

(e) Validation of Best Available Refrigeration Technology:

The owner or operator must submit to the ARB for facilities that meet the following conditions:

(1) Facility is over 25,000 square feet and is commissioned after January 1, 2015

(2) Facility has a stationary refrigeration system that uses a high-GWP refrigerant with a full charge size of 50 pounds or greater

(A) The facility inventory must provide data for all facilities individually. The facility inventory must include the following information:

1. The total energy output of the stationary refrigeration system, including all of the individual components that comprise the stationary refrigeration system, in units of 1000 BTUs per hour.

2. Type of refrigerant

3. Total refrigerant charge

(f) Facility category definitions: A facility category is defined based on a title and square foot range as follows:

Supermarket (sq ft)	Mixed Use: Retail Food Superstores (sq ft)	Food Storage (sq ft)	Food Processing/ Manufacturing (sq ft)
25,000-30,000	25,000-50,000	25,000-50,000	50,000-75,000
30,000-35,000	50,000-75,000	>50,000	>75,000
35,000-40,000	>75,000		
40,000-45,000			
45,000-50,000			
>50,0000			

(g) Baseline determination reporting: On or before January 1, 2012, the owner or operator of a facility over 25,000 square feet with a stationary refrigeration system that uses a high-GWP refrigerant with a full charge size of 50 pounds or greater must submit a facility inventory to the ARB for all facilities that meet the following conditions:

(1) Facility meets one of the definitions as defined in subsection (f) of this section

(2) Facility has a stationary refrigeration system that uses a high-GWP refrigerant with a full charge size of 50 pounds or greater

(A) The facility inventory must provide data for all facilities individually. The facility inventory must include the following information:

1. Name of operator

2. Name of facility, including a facility identifier such as store number

3. Facility contact person

4. Facility contact person phone number

5. Facility contact person e-mail address

6. Total energy use for last five consecutive calendar years

7. An inventory of all refrigeration or air-conditioning systems or commercial refrigeration appliances, including the following:

(i) Equipment

(ii) Equipment manufacturer

(iii) Equipment model

(iv) Equipment serial number

(v) Temperature classification – identify equipment as a low temperature system or a medium temperature system

(vi) Type of refrigerant used

(vii) Total refrigerant charge

(viii) Monthly refrigerant charge – report the amount of refrigerant charge each month for the most recent calendar year, in pounds

(ix) The total energy output in units of 1000 BTUs per hour

(h) Facility baseline determination: On or before January 1, 2015, ARB will publish baseline carbon footprints by facility category.

(i) The baseline facility carbon footprint for each facility category will be determined as follows:

(1) Baseline Facility carbon footprint= (REFRIG * GWP) + (ENRGY * EFco2)

(A) For the purposes of subsection (e), the following definitions shall apply:

1. REFRIG = Total refrigerant capacity of all air-conditioning and refrigeration equipment contained in an average facility, within each facility category

2. ENRGY = Average annual energy consumption by an average facility, within each facility category kWh/year)

3. EFco2 = Average CO2 emissions rate for each Air District (CO2 emissions/kWh).